

# DOE Industrial Technologies Program

# E-Bulletin

A Monthly Update from the U.S. Department of Energy Industrial Technologies Program

June 2004

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Welcome to this edition of the *E-Bulletin*—your connection to news and resources from DOE's Industrial Technologies Program (ITP). Each monthly edition brings you the latest industrial news highlights, and announcements about new tools and resources, training, events, and project opportunities.

Read the *E-Bulletin* and tap into opportunities to improve industrial energy efficiency today...and tomorrow!

## HEADLINES

### **A Corporate Approach Helps Alcoa Find \$100 Million in Savings Opportunities**

ITP's just-released case study, [Alcoa Teams with DOE to Reduce Energy Consumption](#), highlights the aluminum company's corporate approach to energy efficiency and energy management. By partnering with DOE on assessments, incorporating ITP tools and resources, and by establishing its own Energy Efficiency Network, the company expects to save \$100 million per year by 2006. Read the case study and find out how your company might apply a similar strategy.

### **Arizona Industries of the Future (IOF) Kick-Off Conference: June 15-16, 2004**

Don't miss the [Arizona IOF Kick-Off Conference](#) in Phoenix on June 15-16, 2004! Conference topics will include opportunities for energy savings, increased productivity, and improved environmental impact in the agriculture, aluminum, forestry, and mining industries. Industries will report successes, energy overviews, and developed visions and roadmaps.

### **Infrared Heating of Aluminum Forgings Leads to Energy and Cost Savings**

With ITP sponsorship, Oak Ridge National Laboratory, industry, and university partners have developed a new [hybrid infrared heating system](#) that permits rapid and uniform heating of aluminum alloy billets prior to forging. Commercialized by [Infrared Heating Technologies](#), this technology has been proven to significantly reduce heating time, decrease energy consumption, and improve metallurgical and mechanical properties in forging.

### **Materials, Glass, and Sensors Project and Portfolio Review Meeting: June 21-24, 2004**

ITP is hosting the annual Materials, Glass, and Sensors Project and Portfolio Review meeting in Arlington, VA on June 21-24, 2004. New and on-going research projects from each industry will be highlighted through poster sessions and presentations. Review the [agenda and meeting information](#), and learn more about ITP's [Materials](#), [Glass](#), and [Sensors](#) activities

### **Mesabi Nugget Pilot Project Successfully Showcases ITmk3® Technology**

ITP supports the [Mesabi Nugget Research Project](#), a 2-year effort to evaluate and refine the ITmk3 ironmaking process developed by Kobe Steel. The new process converts iron ore fines and pulverized coal into iron nuggets of similar quality as blast furnace pig iron. Capital costs and energy requirements are significantly lower than conventional ironmaking. In addition to ITP, other partners in this project are Cleveland-Cliffs, Inc., Steel Dynamics, Inc., Ferrometrix, Inc., and the State of Minnesota.

### **AISI Medal Awarded to DOE-Sponsored Researchers**

The [American Iron and Steel Institute \(AISI\)](#) Medal was recently awarded to Dr. Scott Story (US Steel), Dr. Mike Potter (RJ Lee Group, Inc.), and Dr. Richard Fruehan (Carnegie Mellon University) for their paper entitled "Inclusion Analysis to Predict Casting Behavior." The paper highlights research on electron microscope inspection of steel leading to technology that improves the yield of quality steel. The AISI Medal is awarded annually to a technical paper having special merit and importance for the iron and steel industry.



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

## NEW PRODUCTS AND RESOURCES FROM ITP

ITP offers technical publications, software tools, and other resources to help address your company's industrial energy needs. Here are the latest products from ITP:

### **Model-Based Energy Assessment**

[Blue Heron Paper Company: Oregon Mill Uses Model-Based Energy Assessment to Identify Energy and Cost Savings Opportunities](#) in Oregon City, Oregon. This model-based assessment determined ways to reduce flow, head load, and emissions, minimize fresh water, and reduce process energy use at the company's paper mill. Identified projects were estimated to lead to annual natural gas savings of 608,000 MMBtu and 1,000 kWh of electricity, with cost savings of \$2.9 million per year.

### **Variable Speed Pumping: A Guide to Successful Applications, Executive Summary**

Significant opportunities exist to reduce pumping system energy consumption through design, retrofitting, and operating practices. Read [Variable Speed Pumping: A Guide to Successful Applications, Executive Summary](#) to learn about the cost and energy savings potential of pumping applications with variable duty requirements. This document is the result of collaboration between the [Hydraulic Institute](#), [Europump](#), and ITP.

### **Plant-Wide Assessments (PWA) Identify Energy and Cost Savings in Process Heating Systems**

Process heating consumes 38% of the energy used in U.S. industrial plants, and plays a key role in manufacturing of materials such as metals and glass. A new fact sheet, [Metal and Glass Manufacturers Reduce Costs by Increasing Energy Efficiency in Process Heating Systems](#), provides an overview of PWAs conducted at metal and glass facilities, and highlights the energy and cost savings achieved through improvements in their process heating systems.

Visit the [ITP Web site](#) for more **BestPractices** technical publications, software tools, and case studies to help you improve efficiency, productivity, and the bottom line.

## TRAINING

Boost your knowledge about managing industrial energy systems. ITP offers technical training in industrial energy systems, which is offered throughout the year and around the country. Here are upcoming training events for June 2004:

June 9-10, 2004	<a href="#">Advanced Management of Compressed Air Systems</a>	Berlin, CT
June 9, 2004	<a href="#">Optimizing Steam System Performance</a>	Cantonsville, MD
June 10, 2004	<a href="#">Steam System Improvement</a>	Naperville, IL
June 16, 2004	<a href="#">Pumping System Assessment</a>	Bridgeport, CT

### **[More June trainings](#)**

View the [ITP calendar](#) for upcoming workshops in your area. Learn more about [BestPractices training sessions](#) and system [software tools](#).

## PROJECT OPPORTUNITIES

ITP awards cost-shared funding for R&D and plant assessment projects through a competitive merit review process. Open solicitations are:

### **Mining Grand Challenge Technology Concepts Solicitation – Deadline is June 3, 2004**

ITP Mining IOF has issued a Grand Challenge solicitation that seeks applications for cost-shared R&D of technologies that will reduce energy and environmental impacts, and enhance economic competitiveness of the domestic mining industry. The key industry-identified research priorities are energy efficient alternatives to current technologies in the areas of extraction, materials handling, beneficiation, and processing. Find out more about the [solicitation](#).

### **Apply Now for Plant-Wide Assessment Financial Opportunity – Deadline is July 9, 2004**

ITP has announced a solicitation that seeks public-private partnerships to conduct plant-wide assessments in U.S. energy-intensive industrial plants. The objective is to develop a portfolio of assessment techniques that can be used by industries to identify and implement energy efficient opportunities in plants. Priority will be given to sites in the following industries: aluminum, cement, chemicals, food-processing, forest products, glass, metal casting, mining, petroleum, and steel. Read the [solicitation](#).

To learn more about project opportunities visit [ITP's solicitation page](#).

### **Related Web Links**

<a href="#">Industrial Technologies Program</a>	<a href="#">DOE Office of Energy Efficiency and Renewable Energy</a>
<a href="#">U. S. Department of Energy</a>	<a href="#">Climate VISION</a> <a href="#">Energy Savers</a>